

## **REMARKS**

### **Status of the Claims**

Claims 1-34, 37-39 and 42-44 are currently pending in the application. No claim amendments have been made and therefore, no new matter has been added.

### **Allowable Subject Matter**

Applicant thanks the Examiner for acknowledging that claims 4 and 6-7 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### **Rejections Under 35 U.S.C. § 102(b)**

The standard under 35 U.S.C. §102 is one of strict identity. "Under 35 U.S.C. §102, every limitation of a claim must identically appear in a single prior art reference for it to anticipate the claim." *Getcher v. Davidson*, 116 F.3d 1454, 1457 (Fed. Cir. 1997). "Every element of the claimed invention must be literally present, arranged as in the claim." *Richardson v. Suzuki Motor Col., Ltd.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989). Applicant respectfully submits that the cited references fail to anticipate the present invention for at least the following reasons.

#### **Udelhofen**

Claim 37 is rejected under 35 U.S.C. § 102(b) as being anticipated by Udelhofen (U.S. Patent No. 4,231,759, hereinafter "Udelhofen"). See page 2 of the Office Action.

Claim 37 presently recites a method for reducing combustion chamber deposits and/or intake valve deposits in an engine comprising providing a fuel containing an additive comprising a composition selected from the group consisting of hydrocarbyl succinic anhydrides reacted with amines, Mannich adducts derived from hydrocarbyl-

substituted phenols reacted with formaldehydes and amines, ethylene-propylene copolymers grafted with ethylenically unsaturated carboxylic groups reacted with amines, copolymers of unsaturated acids and polyolefins reacted with amines, and acid or ester functionalized hydrocarbon polymers reacted with amines, wherein the amines comprise treated aliphatic or aromatic amines. The claim also provides particular features of the treated amines.

*Udelhofen* discloses reaction products obtained from the Mannich condensation of high molecular weight alkyl-substituted hydroxy aromatic compounds, amines and aldehydes (see Abstract), yet fails to teach or suggest treated amines. Accordingly, *Udelhofen* fails to anticipate the present invention. Applicant respectfully requests reconsideration and withdrawal of the rejection.

*Daly*

Claims 37-38 are rejected under 35 U.S.C. § 102(b) as being anticipated by *Daly* (U.S. Patent No. 5,873,917, hereinafter "*Daly*"). See pages 2-3 of the Office Action. As discussed above, claim 37 recites a method for reducing combustion chamber deposits and/or intake valve deposits comprising the claimed composition. The claim provides particular features of the compositions, including treated aliphatic or aromatic amines and specific aspects thereof.

*Daly* discloses a nitrogen-containing dispersant, including Mannich dispersants, which can be formed by reacting an alkyl-substituted hydroxyaromatic compound, formaldehyde, and an amine. See col. 7, lines 47-48 and col. 8, lines 1-19. Yet *Daly* fails to teach or suggest treated amines, as presently recited. Accordingly, *Daly* fails to

anticipate the present invention. Applicants respectfully request reconsideration and withdrawal of the rejection.

**Rejections Under 35 U.S.C. § 103(a)**

The initial burden of factually supporting any *prima facie* conclusion of obviousness rests with the Examiner. If the Examiner does not produce a *prima facie* case, Applicants are under no obligation to submit evidence of nonobviousness. See MPEP 2142. The key to supporting any rejection under 35 U.S.C. §103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. See *Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in View of the Supreme Court Decision in KSR International Co. v. Teleflex Inc.*, 72 FR 57526, 57528 (Oct. 10, 2007)(hereinafter "KSR Guidelines"). "Rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *Id.* (quoting *KSR International Co. v. Teleflex Inc.*, 550 U.S. \_\_\_, 127 S. Ct. 1727, 82 U.S.P.Q.2d 1385 (2007)). The KSR Guidelines further provide a number of rationales that may be articulated to support a legal conclusion of obviousness. See KSR Guidelines at 57529. Applicant respectfully submits that no *prima facie* case of obviousness exists for at least the following reasons.

**Kamakura**

Claims 1-3, 5, 8-9, 11-12, 14-16, 18-21 and 42-44 are rejected under 35 U.S.C. § 102(b) as being anticipated by Kamakura (JP 1-95194, hereinafter "Kamakura"). See pages 3-4 of the Office Action. Applicant hereby relies on the excepted English translation of *Kamakura* for the arguments set forth herein.

The Examiner has rejected the claims under §102(b) on page 3 of the Office Action; however, the Examiner has acknowledged on page 4 that *Kamakura* does not teach the claimed dispersant within the claimed range. Therefore, Applicants have regarded this rejection as an obviousness rejection and not a novelty rejection.

The Examiner has admitted that "the difference between *Kamakura* and the currently presented claims is that *Kamakura* does not disclose a dispersant with a molecular weight within the claimed range." See *id.* at page 4. The Examiner has instead argued that *Kamakura* allegedly discloses "a polyamine reactant [sic] with a molecular weight of 300 to 1100, and a polybutenyl succinic anhydride with a molecular weight of 500 to 2000. The molecular weight of the reaction product will therefore range from approximately 800 to 3100, overlapping the claimed ranges." *Id.*

Yet contrary to the Examiner's position and rationale, one skilled in the art would know, that the precise molecular weight of a reaction product cannot be predicted by simply adding the molecular weights of its reactants. A skilled person would know that a final reaction product (including its molecular weight) depends on many factors, including thermodynamics, reaction kinetics, transition states, reaction mechanisms, etc. Therefore, *Kamakura* does not teach or suggest a dispersant with a molecular weight overlapping the presently claimed ranges, as the Examiner contends.

Accordingly, Applicant submits that the Examiner has not only admitted that *Kamakura* does not teach or suggest the presently claimed dispersant, but has further failed to establish a *prima facie* case of obviousness at least because there is no articulated reasoning with some rational underpinning to support the conclusion that *Kamakura* teaches a dispersant with molecular weights overlapping the claimed ranges.

Applicant therefore respectfully requests reconsideration and withdrawal of the rejection.

*Bardasz in view of Kamakura*

Claims 24-28, 30, 32-33 and 39 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bardasz (U.S. Patent No. 5,595,964, hereinafter "Bardasz") in view of *Kamakura*. See pages 4-5 of the Office Action.

The Examiner has admitted that *Bardasz* does not disclose the specific dispersant recited in the present claims. See *id.* at page 5. The Examiner has instead relied on *Kamakura* for supplying this missing teaching. *Id.*

As discussed above, the Examiner has admitted that *Kamakura* does not teach or suggest the claimed dispersant. See *id.* at page 4. Additionally, and as discussed above, no *prima facie* case of obviousness exists. In particular, there is no articulated reasoning with some rational underpinning to support the Examiner's conclusion that *Kamakura* teaches a dispersant with molecular weights overlapping the claimed ranges. Accordingly, *Kamakura* fails to overcome the deficiencies of *Bardasz*, and neither reference teaches or suggests the presently claimed dispersant. The present invention is therefore not obvious in light of the combination of references. Applicant respectfully requests reconsideration and withdrawal of the rejection.

*Robson in view of Kamakura*

Claims 10, 17, 22, 24-30 and 32-34 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Robson et al. (U.S. Patent No. 6,060,437, hereinafter "Robson") in view of *Kamakura*. See pages 5-6 of the Office Action.

The Examiner has admitted that *Robson* does not disclose the specific dispersant recited in the present claims, but has instead relied on *Kamakura* for supplying this missing teaching. See *id.* at page 5. But as discussed above, the Examiner has admitted that *Kamakura* does not teach or suggest the presently claimed dispersant. See *id.* at page 4.

Moreover and as discussed above, no *prima facie* case of obviousness exists at least because there is no articulated reasoning with some rational underpinning to support the Examiner's conclusion that *Kamakura* teaches a dispersant with molecular weights overlapping the claimed ranges. Accordingly, *Kamakura* fails to overcome the deficiency in *Robson*, and neither reference teaches or suggests the presently claimed dispersant. The present invention is therefore not obvious in light of the combination of references. Applicant respectfully requests reconsideration and withdrawal of the rejection.

*Russo in view of Kamakura*

Claims 13 and 23 rejected under 35 U.S.C. § 103(a) as being unpatentable over Russo et al. (U.S. Patent No. 5,286,264, hereinafter "Russo") in view of *Kamakura*. See page 6 of the Office Action.

The Examiner has admitted that *Russo* does not disclose the specific dispersant recited in the present claims, but has instead relied on *Kamakura* for supplying this missing teaching. *Id.* Yet as noted above, the Examiner has admitted that *Kamakura* fails to teach or suggest the presently claimed dispersant. See *id.* at page 4.

Furthermore and as discussed above, no *prima facie* case of obviousness exists at least because there is no articulated reasoning with some rational underpinning to

support the Examiner's conclusion that *Kamakura* teaches a dispersant with molecular weights overlapping the claimed ranges. Accordingly, *Kamakura* fails to overcome the deficiency in *Russo*, and neither reference teaches or suggests the presently claimed dispersant. The present invention is therefore not obvious in light of the combination of references. Applicant respectfully requests reconsideration and withdrawal of the rejection.

*Srinivasan in view of Kamakura*

Claims 24 and 30-33 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Srinivasan et al. (U.S. Patent No. 5,571,445, hereinafter "Srinivasan") in view of *Kamakura*. See pages 6-7 of the Office Action.

The Examiner has admitted that *Srinivasan* does not disclose the specific succinimide recited in the present claims, but has instead relied on *Kamakura* for supplying this missing teaching. See *id.* at page 5. But as noted above, the Examiner has admitted that *Kamakura* fails to teach or suggest the presently claimed dispersant. See *id.* at page 4.

Further and as discussed above, no *prima facie* case of obviousness exists at least because there is no articulated reasoning with some rational underpinning to support the Examiner's conclusion that *Kamakura* teaches a dispersant with molecular weights overlapping the claimed ranges. Accordingly, *Kamakura* fails to overcome the deficiency in *Srinivasan*, and neither reference teaches or suggests the presently claimed dispersant. The present invention is therefore not obvious in light of the combination of references. Applicant respectfully requests reconsideration and withdrawal of the rejection.

**Conclusion**

In view of the foregoing remarks, Applicant respectfully requests reconsideration of this application and the timely allowance of the pending claims. This is believed to be a complete and proper response to the Examiner's Office Action.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 50-2961.

Respectfully submitted,

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